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The Effects of Physical and Non-physical Investments of Government Expenditure in Education and Health Sectors on Human Development Index in Pekanbaru City

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Abstract

In this current globalization era, human resources investment is necessary for each country to improve the index of human development and economic growth, many countries have succeeded in economic growth by relying on human resources despite not having abundant natural resources. However, the success of resource investment is also strongly influenced by the availability of supporting facilities and infrastructure. Based on data of physical and non-physical investments of government expenditure in education and health sectors from 2007-2017, shows a positive trend with relatively increasing value. Meanwhile, based on data of human development index progress in Pekanbaru city in recent years showed a relatively declining value. This contradicts the theory of endogenous romer which explained that when the government or private sectors invest in human resources, it will encourage the improvement of human resources quality that reflects the progress of human development index. This study uses secondary data, namely government physical and non-physical expenditure data in the field of education and health in Pekanbaru City on Regional Budget in 2010-2017. The independent variable is government physical and non-physical expenditure in education and health sectors. While the dependent variable is the Human Development Index. The analysis method used is OLS (Ordinary Least Square) method where the data used are analyzed quantitatively using statistical analysis, namely multiple linear regression equations. Based on the results of research, government physical expenditure in education and government non-physical expenditure in the health sector does not significantly influence the human development index in Pekanbaru City. While government non-physical expenditure in education and government physical expenditure in health significantly affect the human development index in Pekanbaru City. Furthermore, for physical investment where in this research is the government physical expenditure in education and health sectors simultaneously has a significant effect on the human development index in Pekanbaru City. Whereas for non-physical investment where in this study is government non-physical expenditure in education and health sectors simultaneously has a significant effect on the human development index in Pekanbaru City.

Introduction

In the narrow meaning, investment in human resources is an investment in education, but in a broad meaning it includes investment in health and social sectors generally. The escalation of government's budget allocation for education and health is a strategy of community empowerment to improve the human development index and national development also address poverty problems. (Omankhanlen, 2014).

Following is a table of Total of Expenditure Budget (APBD) of Pekanbaru city in the Education and Health sectors in 2010-2017.

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Table 1 Total of Expenditure Budget (APBD) of Pekanbaru city in the Education and Health sectors in 2010-2017

Year	Total Regional Budget (Billions of Rupiah)	Education sector budget (Billions of Rupiah)	Health sector budget (Billions of Rupiah)	Education sector portion (%)	Ealth sector portion (%)
2010	1268	166	40	13,0	3,15
2011	1490	176	45	11,8	3,02
2012	1583	245	52	15,4	3,28
2013	1982	253	35	12,7	1,76
2014	1343	176	87	13,1	6,47
2015	1525	198	85	12,9	5,57
2016	1000	132	84	13,2	8,4
2017	1216	175	130	14,3	10,6

Source: BPKAD Pekanbaru city, 2018 (Processed data)

Based on the table above it can be seen that the portion of government expenditure in Pekanbaru City's Regional Budget in education sector shows a positive trend, with a relatively increasing percentage. Where the largest percentage of education expenditure is in 2012 amounting to 15.4% of Pekanbaru City Budget. In addition, the portion of government expenditure in the health sector also shows a positive trend, with a relatively increasing percentage of value. Where the percentage of the largest portion of health expenditure is in 2017 at 10.6% of the Pekanbaru City Regional Budget. (BPKAD, 2018).

While based on human development index data, the percentage of human development index progress and the percentage increase or decrease in the human development index in Pekanbaru City in 2004-2017. It can be seen that the percentage of human development index data in Pekanbaru city in the last thirteen years shows a positive trend, but with a relatively decreasing percentage. Where the largest percentage reduction in HDI value was in 2008 with a percentage of -0.84%.

Based on data on government expenditure in education and health sectors, as well as data on the percentage of HDI development in Pekanbaru City, there is a gap, or in other words, there is a difference between the data with the endogenous growth theory. Where this theory explained, "if the government or private sectors invest in human resources, there will be an increase in human resources productivity/quality", which reflects an improvement in human capital or in HDI. (Todaro, 2011).

According to this description, the author would like to discuss it further into a thesis entitled "The Effects of Physical and Non-Physical Investments of Government Expenditure in Education and Health Sectors on Human Development Index in Pekanbaru City".

Library Research

Endogenous Growth Theory

According to Romer, the endogenous growth theory is a result of the economic system, this theory assumes that economic growth is more determined by the production system and not from outside the system. Endogenous growth models include the influence of technology, physical capital investment and human resources as endogenous variables. The endogenous growth model uses the assumption of diminishing returns to scale on capital investment from the model and give an opportunity for increasing returns to scale in aggregate production and the role of externalities in determining the rate of return on capital investment. Public and private sectors investment in HR generates an external economy and increased productivity resulting in increasing returns to scale and different long-term growth patterns across countries. Growth rates remain constant and vary between countries depending on the level of national saving and the level of technology. (Todaro, 2011).

The endogenous growth theory also points out that investment in education and health is a source of human resource development. Investment in education and health is integrated into a human capital approach that focuses on the indirect ability to increase utility by increasing income. The revenue gains from education & health must be compared to the total cost of obtaining education & health as an investment. (Todaro, 2011).

Human Capital Theory

Human Capital Theory emphasizes that education, knowledge, health, and skills are forms of human capital, just as physical capital investments, human capital investments generate returns in the future. Education plays an important role in the economy ability to adopt modern technology and build capacity for sustainable growth. Health is also a prerequisite for improving productivity. Thus, education and health can also be seen as vital components in growth and development, as inputs to the aggregate production function. (Todaro, 2011).

This is in accordance with the theory of human capital according to Becker that humans are not just resources but are capital which produces returns and every expenditure made in order to develop the quality and quantity of capital is an investment activity. Becker also explained that human capital is different from other capital because schools, courses, costs incurred for health, college are also capital that improves health, increases income, and increases appreciation for someone during his life. But this capital cannot be separated from its owner like other physical capital. (Becker, 2009).

Human Development Index

UNDP (2016) To see the success of development and human welfare, UNDP has published an indicator, the Human Development Index (HDI) to measure the success of development and welfare of a country. Where the human development index is a composite index that covers three areas of human development that are considered to be very basic seen from the three indicators, namely:

1. Health level, is measured by life expectancy at birth (AHH), which is the number of years that is expected to be achieved by a newborn to live, assuming that the pattern of mortality according to age at birth is the same throughout the baby's age.
2. Education level, is measured by literacy rates, expectancy length of school and average length of school (RLS). The current adult literacy value has been updated to be expectancy length of school (HLS), it defined as the length of years of formal schooling that are expected to be felt by children at a certain age in the future. While the average length of school (RLS) is the average length (years) of the population aged 25 years and over in undergoing formal education.
3. Adequate living standards as measured by adjusted per capita expenditure, determined by the value of expenditure per capita and purchasing power parity. (BPS, 2016)

The three HDI indicators, namely education indicators, health indicators and standard of living indicators, affect each other, but can also be influenced by other factors such as the availability of employment opportunities, economic growth, infrastructure, and government policies so that HDI will increase if the three elements can be improved and high HDI values signify the success of a country's economic development. (BPS, 2016).

Physical Investments in Education and Health Sectors

According to Mankiw, physical investment is all expenditures that can create new capital or increase the stock of capital goods. Physical investment includes factory buildings and employee housing, machinery and equipment, and supplies (raw materials, semi-finished goods, and finished goods). (Atmanti, 2005).

Meanwhile, According to Dumairy, physical investment is a government expenditure to meet development needs. The purpose of development is to improve people's welfare. Community welfare can be realized by meeting facilities for basic needs, such as health and

education. With the availability of basic needs facilities, it will be able to support the improvement of the quality of human resources. (Dumairy, 2009).

The government must increase its budget allocation for the education and health sectors on infrastructure development through joint movement of all stakeholders, start from government of various levels, non-government organizations, private sector, must be able to coordinate and organize each other in building education and health facilities and support the development of resources people in education and health for sustainable economic growth. (Torruam, 2014).

Non-Physical Investments in Education and Health Sectors

Non-physical investment includes education, training, migration, health care and employment. Non-physical investment better known as an investment in human resources is the number of funds spent and the opportunity to earn income during the investment process. Income during the investment process is in return and is expected to obtain a higher level of income to be able to achieve a higher level of consumption as well. (Atmanti, 2005).

According to Schultz, non-physical investment or human resources investment is grouped into six main components: health facilities and services, job training at the place where he works, organized education system, study programs that continue to develop, individual and family migration that adjusts to changes in employment opportunities (population mobility factors), knowledge transfer and expertise. (Ijeoma, 2017).

Previous Research

Omankhanlen research results (2014) explained that the government physical expenditure in education sector has a positive and significant effect on HDI. This is due to the increase in infrastructure development in government spending in education will increase institutional capacity to produce qualified workforce candidates and encourage a more conducive school environment.

This is contradictive to the results of Ijeoma's research (2017) which explained that the government physical capital expenditure in the field of education has a negative and significant effect on HDI in Kano, Nigeria. This is due to the relatively low government budget in the education sector, and inaccurate expenditure that has been spent on developing the education sector in Kano.

While the results of Lyakurwa's research (2007) stated that education and health are the main keys and instruments in developing human resources in any country. Because the development of human resources has the capacity and an important role in providing choices and opportunities for someone to improve a healthier and more productive life through the skills and knowledge they have.

This is opposite to the results of Ijeoma's research (2017) which explained that government expenditure in education and health has no significant effect on HDI in Nigeria, it is caused by the weakness of policies evaluation measures that have been made by the government in this regard.

Furthermore, the results of Xiaoqing's research (2005), Investment in the health sector is one part of the investment in human resources. without the support of health, human capital cannot be actualized properly. Considering expenditure in the health sector in the form of activities that can cure and prevent various diseases, even broadly investing in the health sector including entertainment activities related to health, training of health medical personnel, budgets for hygiene, sanitation, social insurance expeniture, medical care services and others. So investment in the health sector is a productive investment that can bring benefits to investors or the government.

This is contradictive to the study results of Abu and Abdullahi (2010) who explained that the increase in government expenditure in the health sector was not followed by an increase in the human development index. This is due to various problems such as the availability of

health facilities, midwives or workers who are trained in health services, weak health facilities, and health care systems will limit people's opportunities and hamper their ability in terms of human resource development to contribute to economic growth.

Theoritical Framework

The implementation of this research refers to the gap of the existing phenomena with the theory of endogenous romer, then the reason for choosing Pekanbaru as the research object is based on the human development index graph in all regencies/cities in Riau Province. It is seen that Pekanbaru City is a regency/city in Riau Province which has the highest index of development compared to other districts/cities in Riau Province. Furthermore, the reason for using government expenditure in education and health sectors as a variable in this study is based on the Central Statistics Agency (2016), Education and health are the main components in the human development index which are used as a measure of development performance in an area.

While the reason for using physical and non-physical government expenditure in education and health sectors as the main variable in this study is because based on the physical and non-physical expenditure tables of the government in education and health, it also shows a gap between government physical expenditure in education and government expenditure physical and non-physical in health sector to the percentage of the development of the human development index in the city of Pekanbaru.

The reason for simultaneously studying the effect of physical investment in education and health on the human development index is that there is a theory that explains productive expenditure on human capital in the long term education and health will have a positive effect on increasing HDI. Because to achieve the expected human development, the orientation of human development must start from policies oriented to capabilities development or community skills which in turn are expected to increase income, then, in the end, will increase the human development index. (Siddiqui, 2008).

Next, the reason for simultaneously studying the effect of non-physical investment in education and health sectors on the human development index is according to Omankhanlen (2004), Increasing infrastructure development in education and health will increase institutional capacity to produce quality labor and encourage the bigger output level.

Based on the gap between the phenomena in the data and the theory endogenous romer, as well as the gap of various findings. Therefore it is very necessary to analyze and study more deeply the components of physical and non-physical investments in government expenditure in education and health sectors that can affect the percentage of the human development index progress in Pekanbaru City.

Research Method

Data

This study used secondary data in the form of an annual time series started from 2010-2017, which is quantitative data, namely data in the form of numbers. The researcher in compiling this thesis conducted data collection in two steps. The first step is collecting some important data such as journals, articles that have been published. As well as the second step, namely by collecting secondary data needed in research analysis, data sources were obtained from the Central Statistics Agency (BPS) and the Regional Financial and Asset Management Agency (BPKAD) Pekanbaru City. The technique used in collecting this data is by direct recording, copying and downloading from the relevant website source.

Operational Variabel Definition

1) Human Development Index is a measure of overall development performance formed through basic three-dimensional approaches that include longevity and health, knowledge and worthy life, and each dimension is represented by indicators. The variable is calculated in percent units. (BPS, 2016).

2) Government expenditure in education is the value of government expenditure for the education sector which reflects government expenditure from the total expenditure allocated to the education sector. The variable is calculated in trillion units. (BPS, 2016).
3) Government expenditure in the health sector is the magnitude of the allocation of government health expenditure which reflects the government expenditure of the total expenditure allocated to the health sector. The variable is calculated in trillion units. (BPS, 2016).
4) Physical expenditure or physical investment is an expenditure that can create new capital or increase the stock of capital goods. The variable is calculated in trillion units. (Mankiw, 2009).
5) Non-physical expenditure, i.e. investment of human resources is capital which produces a return and every expenditure made in order to develop the quality and quantity of capital is an investment activity. The variable is calculated in trillion units. (Becker, 2009).

Data Analysis Method

The data analysis method used is the OLS (Ordinary Least Square), to find out how much influence the independent variables have on the dependent variable. The data used are analyzed quantitatively using statistical analysis, namely multiple linear regression equations. The independent variables that affect the dependent variable are expressed in the function as follows:

$$Y = f(PF,PNF,KF,KNF) \quad \text{1}$$

Then the function is transformed into a multiple regression model with the model specifications as follows:

$$y = \beta 0.e\beta 1PF1 + \beta 2PNF2 + \beta 3KF3 + \beta 4KNF4$$

Note :

Y = Human development index (percent)
β0 = Intercept
PF = Government physical expenditure in education sector (billion)
PNF = Government non-physical expenditure in education sector (billion)
KF = Government physical expenditure in health sector (billion)
KNF = Government non-physical expenditure in health sector (billion)
β1,β2,β3,β4, = Regression coefficient
μ = Terms of error

Classical Assumption Deviation Test

In addition, a classical assumption deviation test was performed, so the hypothesis test based on the analysis model was not biased or even misleading, the test was:

1) Normality Test, aimed to test whether in the regression model, the dependent variable and the independent variables both had a normal distribution or not.
2) Multicollinearity Test is a tool to determine whether a condition in the regression model had a correlation of independent variables among each other.
3) Heteroscedasticity test was intended to test whether in the regression model there was an inequality of variance and residuals from one observation to another observation.

Coefficient of Determination Test (R2)

Determination Coefficient was conducted to see how much the ability of the independent variables together provide an explanation of the dependent variable, where the value of adjusted R square ranged from 0 to 1 (0< Adjusted R Square<1) the greater the value of Adjusted R Square, the greater the variation of the dependent variable that can be explained by the variation of the independent variables.

T Statistics Test

T Test (Partial test) showed that whether each independent variable could influence the dependent variable. The hypothesis in the t test was: The expected condition was a significance value smaller than alpha 5% (0.050) or 10% (0.10).

F Statistics Test

F test (Simultaneous test) showed that whether there was an influence of the independent variable/predictor on the dependent variable/response simultaneously. The expected condition was to accept the H1 hypothesis. The H1 hypothesis was accepted if the significance value was smaller than alpha 5% (0.050).

Results and Discussion

Results

Classical Assumption Test

Normality Test

Table 2 Normality Test Results

Series	Skewness	Kurtosis	Jarque-Bera	Prob.
Residuals	-1,127196	3,898914	2,699736	0,259274

Source: Processed Data

Based on the result of the normality test shown in the above table, the JB probability value was 0.259274 greater than alpha 0.05 (0.259274> 0.05). So it could be concluded that the data was normally distributed.

Multicollinearity Test

Table 3 Multicollinearity Test Results

Variabel	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.218971	18.32086	NA
PF	3.2743411585	20.20367	4.460349
PNF	1.2634626665	24.49924	1.582308
KF	1.1159434528	16.10738	6.812903
KNF	6.4089155289	18.14234	9.180292

Source: Processed Data

Multicollinearity test result could be seen in the table above the centered VIF column. Based on the multicollinearity test result obtained VIF value for the variable Physical Government Expenditure in the Field of Education amounted to 4.460349. Furthermore, the VIF value for the variable Non-Physical Government Expenditure in the Field of Education was 1.582308. Next, the VIF value for the Government Physical Expenditure variable in the Health Sector was 6.812903. While the VIF value for the Government Non-Physical Expenditure variable in the Health Sector was 9.180292. Based on these test result, the VIF value was not more than 10, so it could be concluded that there was no multicollinearity.

Heteroscedasticity Test

Table 4 Heteroscedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	0.275745	Prob. F (4,6)	0.8835
Obs*R-squared	1.736617	Prob. Chi-Square (4)	0.7892

Source: Processed Data

Based on the result of the heteroscedasticity test in the table above, the calculated prob f value 0.883532 was greater than alpha 0.05 (0.883532> 0.05) so that it could be concluded that there was no heteroscedasticity.

Statistics Test

Simultaneous Test (F Test)

Table 5 Estimation Result

R-squared	0.918643	Mean dependent var	78.266636
Adjusted R-squared	0.864404	S.D. dependent var	0.984675
S.E. of regression	0.362590	Akaike info criterion	1.111869
Sum squared resid	0.788830	Schwarz criterion	1.292730
Log likelihood	-1.115277	Hanna-Quinn criter	0.997861
F-statistic	16.93715	Durbin-watson stat	2.638462
Prob(F-statistic)	0.002023		

Source: Processed Data

Based on the F test for all independent variables on the dependent variable obtained the calculated F value 16.93715 with a significance value of 0.002023 smaller than 0.05 (0.002023 <0.05), so it could be concluded that the Government's Physical Expenditure in Education, Government Non-Physical Expenditure in the Field of Education, Government Physical Expenditure in the Health Sector and Government Non-Physical Expenditure in the Health Sector jointly (simultaneously) influential and significant to the Human Development Index.

Next, based on the F test for the independent variable in the form of physical investment to the dependent variable, the calculated F value 16.60004 with a significance value of 0.001422 was less than 0.05 (0.001422 <0.05), so it could be concluded that Expenditures Physical Government in the Field of Education and Physical Health Expenditures in the Health Sector jointly (simultaneously) influential and significant to the Human Development Index.

Furthermore, based on the F test for independent variables in the form of non-physical investment to the dependent variable, the calculated F value 12.92671 with a significance value of 0.003119 was greater than 0.05 (0.003119 <0.05), so it can be concluded that Government Non-Physical Expenditures in Education and Government Non-Physical Expenditures in Health jointly (simultaneously) influential and significant to the Human Development Index.

Partial Test (T Test)

Table 6 T Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob
C	75.89131	0.467943	162.1807	0.0000
P_PHYSIC	7.85E-12	5.72E-12	1.371501	0.2193
P_NON_ PHYSIC	8.73E-12	3.55E-12	2.456597	0.0493
K_ PHYSIC	3.17E-11	1.06E-11	2.997951	0.0241
K_NON_ PHYSIC	-3.90E-11	2.53E-11	-1.542269	0.1739

Source: Processed Data

1. Based on the result in the table above it was known that the variable Government Physical Expenditure in the Field of Education had a calculated value 1.371501 with a significance level of 0.2193 greater than 0.05 (0.2193> 0.05) which means that Government Physical Expenditure in the Field of Education had no influence to the Human Development Index. So the result cannot be interpreted.
2. Based on the result in the table above, it was known that the variable Government Non-Physical Expenditure in the Field of Education had a calculated value 2.456597 with a significance level of 0.0493 less than 0.05 (0.0493 <0.05), which means that Government Non-Physical Expenditure in the Field of Education had a positive effect and significant to the Human Development Index.
3. Based on the result in the table above it was known that the Government Physical Expenditure variable in the Health Sector had a calculated t value 2.997951 with a significance level of 0.0241 smaller than 0.05 (0.0241> 0.05) which means that Government Physical Expenditure in the Health Sector had a positive effect and significant to the Human Development Index.
4. Based on the result in the table above it was known that the Government Non-Physical Expenditure variable in the Health Sector had a calculated t value -1.542269 with a significance level of 0.1739 greater than 0.05 (0.1739> 0.05) which means that Government Non-Physical Expenditure in the Health Sector had no influence to the Human Development Index. So the result cannot be interpreted.

Coefficient of Determination (R^2)

Based on table 1 it could be seen that the proportion or percentage of the total variation of the dependent variable explained by the independent variable obtained adjusted R square value 0.864404 which means that 86.4404% of the variable Human Development Index could be explained by the variable Government Physical Expenditure in the Field of Education, Government Non-Physical Expenditures in the Field of Education, Government Physical Expenditures in the Health Sector and Government Non-Physical Expenditures in the Health Sector. While the remaining 13.5596% from the Human Development Index variable could be explained by other variables.

Discussion

Government Physical Expenditures in Education Sector

Based on the result of multiple linear regression analysis Government Physical Expenditures variable in the Field of Education did not have a significant effect on the human development index in Pekanbaru City with a significance value 0.2193 greater than 0.05. That was because at this time there are still other parties who also have a large contribution in physical investment in education in the city of Pekanbaru, namely the private sector. Where based on the theory of endogenous romer in Todaro (2011) explained if the private sector invests in human resources, it will encourage the improvement of the quality of human resources. And according to Atmanti (2005) physical investment can take the form of buildings, employees, equipment and others.

It was also supported based on a graph of the development of the number of schools (in units), number of teachers (in units of soul), number of students (in units of souls) from 2010-2017 in Pekanbaru City, it was seen that in the last eight years the development of private education for Elementary, Junior High and High school levels show a positive trend with relatively increasing numbers. The result of the study were also supported by the findings of Ehrenberg (2006) in Witko (2010) where the decline in government expenditure in education

will not affect the human development index value, even the decline in government expenditure in education, will still be responded to by increasing the index of human development in United States of America. (Witko, 2010).

Non-Physical Government Expenditure in Education Sector

Based on the result of multiple linear regression analysis, it could be seen that the variable Government Non-Physical Expenditure in the Field of Education had a significant influence to the human development index in Pekanbaru City with a significance value of 0.0493 less than 0.05. This significant effect was due to the fact that according to the Central Statistics Agency (2016) the main component in the human development index was the education index which had indicators of literacy rates, expectancy length of school and average length of schooling. Where based on the findings of Ilhami (2014) literacy rates, expectancy length of school and average length of school had a significant effect to the human development index. While the findings of Lylia (2014) Literacy Rate (AMH) and Average Length of School (RLS) and Expectancy Length of School (HLS) were the indicators of the education index that had a significant influence to the human development index.

Where based on data literacy rates, expectancy length of school, the average length of school in Pekanbaru City in the past seven years showed a positive trend with relatively increasing numbers, where the highest literacy rates were in 2012 and 2013 which reached 99.90%. While the highest expectancy length of school was in 2017, reaching 14.93 years. Furthermore, the highest average length of schooling was in 2017, reaching 11.21%.

Government Physical Expenditures in Health Sector

Based on the result of multiple linear regression analysis, it could be seen that the Government Physical Expenditure variable in the Health Sector had a significant influence to the human development index in Pekanbaru City with a significance value of 0.0241 less than 0.05. This significant effect was due to base on the Central Statistics Agency (2016) the main component in the human development index was the health index which had an indicator of life expectancy.

This was consistent with the findings of Ilhami (2014) which showed that the health index through the indicator of life expectancy had a significant effect to the human development index. Furthermore, it was supported by the findings of Lylia (2014) Life expectancy had a significant effect on the human development index, where according to Lylia, the government's ability to improve environmental sanitation, health facilities and infrastructure and the provision of health insurance for poor people on target would encourage the magnitude of the index contribution health in the development of the human development index in an area. (Lylia, 2014). Where based on data the life expectancy in the last thirteen years showed a positive trend, with a relative increase. Where the highest life expectancy in 2017 reached 71.75 years while the lowest life expectancy in 2005 reached 70.53 years.

The results of this study were in accordance with Siddiqui (2008) Government physical expenditure in the health sector had a positive and significant effect on HDI (IPM). This was due to the basic needs of food, health, shelter, sanitation and clean water facilities which were factors that could directly improve the standard of living of the poor.

Government Non-Physical Expenditure in Health Sector

Based on the results of multiple linear regression analysis found that the variable Non-Physical Government Expenditure in the Health Sector had a significant effect to the human development index in Pekanbaru City with a significance value 0.1739 greater than 0.05. The cause was an imbalance in the ratio of government physical expenditure in the health sector and non-physical government expenditure in the health sector in recent years. Where in the last thirteen years the ratio between government physical expenditure in the health sector and non-physical government expenditure in the health sector did not show any significant change. This was different from the ratio of government expenditure in education which in 2017 had started to orient towards non-physical investment. Therefore the effect of non-physical government

expenditure in the health sector on the Pekanbaru city development index would be visible in the longer term or in other words was predicted to be significant in the years to come. This was in accordance with the findings of Xiaoqing (2005) Government expenditure on the health sector required more time to directly affect the quality of human resources which could increase economic growth in a region (Xiaoqing, 2005).

Simultaneous Physical Investment in Education and Health Sector and Simultaneous Non-Physical Investment in the Education and Health Sector

Based on the results of the F test found that the physical investment variable both in education and health sector had a calculated F value 16.60004 with a significance value of 0.001422 smaller than 0.05 (0.001422 <0.05), so it could be concluded that the Government's Physical Expenditure in the Field of Education and the Government's Physical Expenditure in the Health Sector jointly (simultaneously) had a significant influence to the Human Development Index in Pekanbaru City.

This was supported by Omankhanlen (2014) The availability of adequate education and health facilities and infrastructure would encourage the quality of life of the community to be better, because the availability of adequate facilities and infrastructure not only stimulates productive economic activities, a conducive school environment to improve skills and expertise. But it could also support a better level of health and would ultimately increase the productivity of human resources. (Omankhanlen, 2014).

Furthermore, based on the results of the F test it was found that the non-physical investment variable both in education and health sectors had a calculated F value 12.92671 with a significance value of 0.003119 smaller than 0.05 (0.003119 <0.05), so it could be concluded that Government Non-Physical Expenditure in the Field of Education and Government Non-Physical Expenditure in the Health sector together (simultaneously) had a significant effect on the Pekanbaru City Human Development Index.

This was in accordance with Siddiqui (2008) which explained productive expenditure on human capital in the education and health sectors in the long run would have positive effect on increasing HDI (IPM). Because to achieve the expected human development, the orientation of human development must start from policies oriented to the development of the capabilities or skills of the community, which in turn were expected to increase income, then in the end would increase the human development index. (Siddiqui, 2008).

Conclusions and Suggestions

Conclusion

Based on the results of research and discussion, it could be concluded that:

1. Government Physical Expenditure Variable in the Field of Education did not significantly influence the Human Development Index in Pekanbaru City. The regression coefficient value of the Government's Physical Expenditure in the Education Sector was 7.8479819692 which meant that any increase in the government's physical expenditure in the education sector amounted to Rp.1 would not increase the percentage of the Human Development Index.
2. Government Non-Physical Expenditure Variable in the Field of Education significantly influenced the Human Development Index in Pekanbaru City. The regression coefficient value of Non-Physical Government Spending in Education was 8.7320298233, which meant that any increase in the government's non-physical expenditure in the education sector amounted to Rp.1 would increase the percentage of the Human Development Index.
3. Government Physical Expenditure Variable in the Health Sector significantly influenced the Human Development Index in Pekanbaru City. Regression coefficient value of the Government's Physical Expenditure in the Health Sector was 3.16698186119 which meant that any increase in the government's physical expenditure in the health sector amounted to Rp.1 would not increase the percentage of the Human Development Index.

4. Government Non-Physical Expenditure Variable in the Health Sector did not significantly influence the Human Development Index in Pekanbaru City. The regression coefficient value of Non-Physical Government Expenditure in the Health Sector was -3.90438284068 which meant that any increase in government physical expenditure in education amounted to Rp. 1, would not increase the percentage of the Human Development Index.
5. Government Physical Expenditure Variable in the Field of Education and Government Physical Expenditure in Health Sector jointly (simultaneously) had a significant influenced on the Human Development Index in Pekanbaru City. The calculated F value was 16.60004 with a significance value of 0.001422.
6. Government Non-Physical Expenditure Variable in the Field of Education and Non-Physical Government Expenditure in Health Sector jointly (simultaneously) had a significant influenced on the Human Development Index in Pekanbaru City. The calculated F value was 12.92671 with a significance value of 0.003119.

Suggestion

For Pekanbaru City Government:

1. Government physical expenditure in the field of education had no significant effect on the human development index in Pekanbaru City. Government of Pekanbaru City must review and optimize the used of physical expenditure budget in education in various programs and activities that were allocated from the budget. As well as ensuring that a sizable budget allocation was issued that could be distributed properly and appropriately. Considering the obligatory affairs of the local government was the organization of education and the provision of public facilities and infrastructure that had the potential to improve the quality of human resources in Pekanbaru City.
2. Government non-physical expenditure in education had a significant effect on the human development index in Pekanbaru City. Government of Pekanbaru City should further increase its budget allocation effectively and efficiently towards programs and activities in the non-physical expenditure component of the government in the field of education. Considering that in recent years the budget allocation for non-physical government expenditure in education had tended to decline. Because non-physical investment or investment in human resources could provide long-term returns through skills and expertise that could increase productivity and quality of human resources. In addition, the effectiveness of the implementation and evaluation of the program/policy must still be considered so that the program/policy could provide the results that were expected as expected, as well as the need for overall coordination (private, government and community itself).
3. Government physical expenditure in the health sector had a significant effect on the human development index in Pekanbaru City. Government of Pekanbaru City must be able to evaluate the role of the government's physical expenditure component in the health sector, such as in programs and activities for renovation, procurement of medical devices and construction of health facilities which had the largest portion allocation from year to year in government physical expenditure in the sector health.
4. Government non-physical expenditure in the health sector did not significantly influence the human development index in Pekanbaru City. Government of Pekanbaru City must balance the ratio of government physical expenditure in the health sector and non-physical government expenditure in the health sector, bearing in mind the allocation of the government budget in non-physical spending in the health sector in the Pekanbaru City Budget was still relatively low.

References

Abu, & Abdullahi. (2010). Government Expenditure and Economic Growth in Nigeria, 1970-2008: A Disaggregated Analysis. *Journal of Economics and Business*, 4.

Atmanti, D. H. (2005). Human Resource Investment Through Education. *Journal of Development Dynamics*, 2(1), 30-39. ISSN 1829-7617.

Regional Financial and Asset Management Agency. (2018). Recapitulation of Realization of the Budget According to the Government, Organizations, Programs and Activities of the 2018 Fiscal Year. Pekanbaru.

Central Bureau of Statistics. (2016). Human Development Index 2016: Democracy and Human Development in Indonesia. Indonesia

Becker, G. (2009). *Human Capital: A Theoretical And Empirical Analysis, With Specialized Reference to Education*. The University of Chicago.

Dumairy. (2009). *Indonesian Economy*. Jakarta: Erlangga.

Ijeoma, C. (2017). Effects of Government Expenditures on Human Resource Investment in Nigeria for the 2015 Period. IIARD. *International Journal of Banking and Finance*, Faculty of Banking and Finance, Paul University. Nigeria. 3(3).

Ilhami, S. (2014). Analysis of the Effects of the Education Budget on the Human Development Index in Indonesia. Journal of Economic Sciences, Bogor Agricultural University.

Lilya, N. (2014). Effect of Human Development Index Components on the Growth of the Province of Bali. *Journal of Development Economics*, Faculty of Economics and Business, Udayana University.

Lyakurwa, W. (2007). *Human Resources and Technology Development Period 1970-2005: African Case Study*. Percentage of Papper at the Shanghai Annual Symposium Meeting. China.

Omankhanlen. (2014). Analysis of Nigerian Government Spending Efficiency Against Development of Human Resources Investment in Nigeria for the 2012 Period. European *Journal of Business and Social Sciences*, Faculty of Banking and Finance, University of Covenant. Nigeria. 3(7).

Siddiqui, R. (2008). Analysis of Human Resource Development Strategies Through Physical Investment and Non-Physical Investment Using Regional Approaches in 64 Asian, African and Other Continents Period 2004. *Journal of the Islamic Development Economics Institute*, Pakistan. 24.

Todaro, M. P. & Stephen C. S. (2011). *Economic Development. Eleventh Edition*. Volume 1. Jakarta: Erlangga.

Torruam. (2014). Government Expenditures in Human Resource Development as a Strategy for Economic Growth in Nigeria for the 2012 period. *International Journal of Research in Humanities and Social Studies*, Nigerian Institute of Social and Economic Research. 1(2).

UNDP. (2016). *Human Development Report 2016*. Oxford University Press. New York

Witko, C. (2010). Government Budget Efficiency, Human Resources Investment and Physical Investment in the United States of America Period 2010. *Journal of Public Administration Research and Theory Oxford University*, 20(1).

Xiaoqing, X. (2005). Physical Investment, Investment in Health and Economic Growth in China Period 2002. *Journal of Investment Management and Financial Innovations*, 2(1).